DOCUMENT RESUME

ED 273 588 SP 027 939

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TITLE Apparent and Actual Use of Observational Frameworks by Experienced Teachers.
PUB DATE 12 Apr 86
NOTE 11p.; Paper presented at the National Convention of the American Alliance for Health, Physical Education, Recreation and Dance (Cincinnati, OH, April 10-13, 1986).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Classroom Observation Techniques; *Lesson Observation Criteria; Movement Education; *Physical Education; *Physical Education Teachers; Psychomotor Skills; *Teacher Attitudes

ABSTRACT

This study investigated observational strategies that were used by six experienced physical education teachers when viewing a videotape of motor skills (standing vertical jump, overarm throw, tennis serve, basketball jump shot and dance sequence). Four observational frameworks were proposed as being representative of subdisciplinary knowledge bases within the study of human movement. Laban and Lawrence's Effort-analysis framework (1974) proposes that the criteria for efficiency of human movement is the right proportion of weight, space, time, and control of movement. Cooper and Glassow's Kinesiological framework (1976) proposes that a similarity in joint actions and sequencing of the actions exists among skills within patterns of movements. Hay and Reid's Biomechanical (1982) framework proposes theoretical models in the form of block diagrams to serve as the basis for identifying faults in a performance. Roberton and Halverson's (1984) Developmental framework proposes that common development of the biophysiologic system exists across individuals. Analysis of the observers' comments after observations of the videotaped skills indicated that the observational framework chosen depended upon the background, knowledge, and experience of the observer; that some observers used different observational models for the different skill sequences; and that those observers who used the same observational model often used the same language and descriptive phrases when discussing the skills. (CB)

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Apparent and Actual Use of Observational Frameworks by Experienced Teachers

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SP 027 939

Running Head: OBSERVATIONAL FRAMEWORKS

Paper presented at the AAHPERD National Convention and Exposition, Cincinnati, OH, April 12, 1986. With: K. R. Barrett, P. C. Allison, M. N. Satern, & L. Lander: Application of Laban's Movement Perspective to Curriculum and Instruction in Physical Education.

The ability to observe the learner interact with and perform in the learning environment is an essential skill that must be acquired and developed by the teacher of motor skills. Effective teaching follows skillful observing. Barrett (1979) suggested that a pre-requisite for skillful observation is a knowledge base in human movement. The more the teacher knows about movement, the better prepared the teacher will be to observe movement under differing situations. Barrett (1982) further asserted that the acquisition of a knowledge base in human movement would help students who are aspiring to become teachers to develop a strategy for observing.

The purpose of this study was to investigate observational strategies that were used by experienced observers when viewing a videotape of the following motor skills: (a) a standing vertical jump, (b) an overarm throw, (c) a tennis serve, (d) a basketball jump shot, and (e) a dance sequence.

Four observational frameworks were proposed as being representative of subdisciplinary knowledge bases within the study of human movement. Experienced observers who had a background in at least one of the four proposed observational frameworks and/or were familiar with the skills videotaped were selected to participate in this investigation. The proposed observational frameworks were:

1. Laban and Lawrence's (1974) Effort-analysis framework. This framework proposes that the criterion for efficiency of human movement is the right proportion of weight, space, time, and control

of the movement.

2. Cooper and Glassow's (1976) Kinesiological framework. This framework proposes that a similarity in joint actions and sequencing of the actions exists among skills within patterns of movements, such as underarm, sidearm, and overarm throwing and striking patterns.

3. Hay and Reid's (1982) Biomechanical framework. This framework proposes theoretical models in the form of block diagrams to serve as the basis for identifying faults in a performance; the model shows the relationship between the desired results of a particular movement and factors that produce the result.

4. Roberton and Halverson's (1984) Developmental framework. This framework proposes that common development of the biophysiologic system exists across individuals. This development can be charted in stages, with each stage within an action system being noticeably different from the previous or later one; the stages are sequenced according to their order of appearance in most individuals.

Six associates who were members of the faculty of the School of Health, Physical Education, Recreation, and Dance or the Department of Intercollegiate Athletics at the University of North Carolina at Greensboro during the spring semester of 1984 agreed to participate in this investigation. The subjects will be referred to subsequently as observers. One of the six observers was a member of the Department of Intercollegiate Athletics. She was the women's basketball and women's tennis coach. Two of the six observers were

doctoral candidates in the Department of Physical Education. Two of the six observers were graduate faculty members in the Department of Physical Education. One of the six observers was a faculty member in the Department of Dance. The dance faculty member held an undergraduate degree in sociology and graduate degrees in education. All of the degrees held by the remaining five observers were in physical education.

Multiple trials of four sport skills and a dance sequence were videotaped and served as the instrument for this investigation. Both the sagittal and frontal views of each skill were videotaped. The performers who were videotaped were unknown to any of the observers in order to prevent any viewing bias or expectancy set that may have occurred if the observers had viewed someone that was known to them. Both sexes as well as varying skill and age levels were represented among the performers who were videotaped. The skills and performers videotaped were: (a) a 5th grade female performing a vertical jump, (b) a 6th grade male throwing a baseball with an overarm throwing motion, (c) a college-aged male serving a tennis ball, (d) the same college-aged male shooting a basketball jump shot, and (e) a college-aged female performing a dance routine.

Each observer was scheduled for an individual viewing of the videotape. At the beginning of each interview session, the observer was asked questions about his or her educational background and experiences as a teacher, coach, participant, and any other movement related experiences. The observer was then shown each movement skill,

one at a time, and at the normal viewing speed. The sound was turned off so that auditory cues to the movement taking place were not available to the observer. The open-ended question, "What did you observe?" was asked of each observer after viewing each sport skill or the dance sequence. All comments were audiotaped for later analysis. The observer was then asked to describe the quality of the movement that had been performed. When all comments related to the observations of the movement were completed, the next movement skill was shown and the observer was asked to comment as before.

After all the movement skills had been viewed, the observer was asked questions that were designed to reveal the following information: (a) the knowledge base upon which decisions had been made relating to the performance viewed, (b) the strategy used by the observer during his or her viewing of the movement and whether or not that strategy had changed during the viewing session as the movement skills and the subjects changed, and (c) whether the observer felt more comfortable viewing particular movement skills over the others.

The observers again viewed all of the movement skills, this time without stopping after each skill. The observer then had the opportunity to make any changes she or he wished to make regarding comments that had been made earlier.

A content analysis was performed on the transcribed interview sessions. Results of that analysis follow. Five of the six observers mentioned that they looked at the relationships of the various body parts when they observed the sport skills and the dance

sequence. These five observers mentioned that they looked for specific features associated with the movement skills and looked for them in a specific order.

Three of the six observers mentioned that they used a different observational strategy when viewing the sport skills and the dance sequence. Which strategy they used depended on the following factors: (a) the frameworks or knowledge bases that were available to them for the viewing of the specific skill; for an example, the body/space/effort/relationships framework or the component analysis of the developmental framework, (b) their past experiences, (c) the nature of the skill; for example, dance vs. sport skill, continuous vs. discrete, and (d) any personal knowledge of the sport skill or dance sequence they may have had based on their actual experience and participation in the skill. This personal knowledge afforded them a visual image of how they felt the skill should be performed relative to the performer and the situation.

When asked about how they had developed their observational skills, two of the six observers mentioned that their knowledge of the movement framework had helped them to develop their observational skill. After the sport skills and dance sequence had been viewed, recall that the observers were asked to discuss what they had observed in the viewing session by responding to the open-ended question, "What did you observe?" Hoffman (1977) asserted that a primitive response system such as the one used in this investigation, has the advantage of allowing the individual a great deal of latitude

in expressing himself. The disadvantages of the primitive response system, he further asserted, include the ambiguities in the language used to describe human movement. These ambiguities make it impossible to decide whether the problems the viewer may have in his or her ability to analyze the skill being performed is one of perception, interpretation, or language.

An analysis of the observations that were made on the sport skills and the dance sequence was difficult as the six observers chose to describe their observations in language that varied from individual to individual. Those observers who used specific observational frameworks to organize what they had viewed, however, did have a common vocabulary and language upon which to draw as they expressed the observations they had made. The observers who used specific frameworks were also more organized in their selection of the features they chose to comment on in response to the movements that had been viewed.

Three of the six observers used the terminology of the movement framework in all of the observations they made regarding the sport skills and the dance sequence that had been viewed. Two of the observers were very consistent in their use of the terminology offered by the movement framework. The comments and the observations that these two observers made about the movements viewed were very similar to each other. As they commented on their observations, they listed the aspect, such as body, space, effort, relationship, and then selected the appropriate descriptor that they felt best

represented what they had observed. One of the three observers, however, did not use the movement framework as consistently as the other two. She would only mention one of the aspects, either body, space, effort, or relationship, in the comments she made about her observations, rather than all of the aspects. This observer would say, for example, that the movement was indirect or direct, or that the movement was heavy or light.

The use of Laban's view of movement as represented in the movement framework proposed by Logsdon and Barrett (1984) appears to guide the observer in the planning for the observation session as well as provide the observer with a specific language that can be used to report what has been observed.

Following are the observations made by two of the observers after viewing the tennis serve. An interesting exercise is to try to visualize the movement that is being described. Note the language used by the two observers and the order of recall related to the observations that were made.

1. Average skill as a beginner or intermediate level player
body function - he is fighting himself in terms of performing this skill
he is losing power and body weight, he never gets a transfer
he doesn't allow his total body movement to follow through to carry through when he hits the ball
he is too rigid; stops as soon as he contacts the ball rather than letting his body motion flow to a follow through; consequently, he looses force
skill analysis - he is going against himself - the ball toss is out to the right
the racket is coming through on the right side, he is loosing his body thrust behind the ball
he will have a difficult time making it a fluid movement; it is stiff, and not relaxed; therefore, the body parts will not work together, there is no domino effect or coil effect

one does not create the other, it is part as opposed to continuous motion
should be a wind-up, coiling, and upon contact, there should be an unleashing, like a spring
the motion stops at contact, it is not continued in the follow through
quality - for a beginner or intermediate, fairly good
he has the physical ability to perform the skill

2. His standing position - he is just standing there
his feet are slightly apart, they remain stationary throughout the whole serve
the ball was tossed in such a place that the backswing came behind the head
there was not much flexion
came through in one motion
the motion of the arm was in a flexible line, in a curved path instead of straight around
the ball was such that it had him hit it not at full extension
the body leaned to left, the arm was out to the right
the trunk was going as a unit, it was rotating just prior to hitting it
the ball toss was not high enough to get a good stretch
there was not sufficient body tension to produce the force that was needed when he hit it
I didn't see any acceleration
quality - it is linked to efficiency of movement
it looked like a two part swing - a preparation and a hit, so there must not have been too much rotation and derotation and any kind of sequence
he put his arm back and just came through
where the ball was, it limited his movement, there was no extension of the arm
I did not see any acceleration as he contacted the ball
the path of the racket and the shape of the arm in space, it came from the right
I did see more acceleration in the arm at the moment of contact

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